

REMARKS

Claim 32-48 are pending in the present application.

Obviousness-Type Double Patenting Rejection

A terminal disclaimer has been filed concurrently with this Response. Accordingly, the Examiner is respectfully requested to reconsider and withdraw this rejection.

Rejection under 35 U.S.C. §103

Claims 32-38 and 41-48 have been rejected under 35 U.S.C. §103 as being unpatentable over Levine et al. (US Patent 6,058,328) in view of Collins (US Patent 5,782,873). This rejection under 35 U.S.C. §103 over Levine et al. in view of Collins is respectfully traversed.

Independent Claim 32

As respectfully submitted above, independent claim 32 sets forth a bio-function assist device. The bio-function assist device comprises a sensor to sense conditions of a predetermined bio-function; a control circuit, in operative communication with the sensor, to control generation of various electrical stimuli in response to sense conditions of the predetermined bio-function; a chaos control generator to generate a pre-malfunction state electrical signal so as to bring a pre-malfunction bio-function condition back into a normal bio-function condition when the control circuit determines from the sensed conditions a pre-state of malfunction, and an environment enhancement generator to generate an electrical enhancement signal when the control circuit determines from the sensed conditions that a natural signal of the predetermined bio-function has fallen below a threshold to trigger the predetermined bio-function to function properly, the electrical enhancement signal effectively lowering a threshold for enabling proper functioning of the predetermined bio-function.

More particularly, independent claim 32 states that the electrical enhancement signal is generated when the control circuit determines from the sensed conditions that a natural signal of the predetermined bio-function has fallen below a threshold to trigger the predetermined bio-function to function properly.

In formulating the rejection, the Examiner alleges that Collins teaches the claimed environment enhancement generator. Although Collins teaches a device to effectively lower a threshold for enabling proper functioning of the predetermined bio-function, Collins fails to teach the specifics of the claimed environment enhancement generator.

More specifically, Collins teaches, at column 6, lines 1-14, that a bias signal, which is used to lower a threshold for the sensory cells, is generated when an input signal to the neuron is sensed or the bias signal is continuously produced.

Collins fails to teach that the electrical enhancement signal is generated when the control circuit determines from the sensed conditions that a natural signal of the predetermined bio-function has fallen below a threshold to trigger the predetermined bio-function to function properly.

Moreover, Collins fails to teach any sensing of the conditions of a predetermined bio-function so as to trigger the generation of an electrical enhancement signal to effectively lower a threshold for enabling proper functioning of the predetermined bio-function. The only sensing of conditions of a predetermined bio-function that Collins teaches is during calibration. Once the bias signal is established through the calibration process, Collins teaches that is generated when an input signal to the neuron is sensed or is continuously produced.

In summary, since Collins fails to teach that the electrical enhancement signal is generated when the control circuit determines from the sensed conditions that a natural signal of the predetermined bio-function has fallen below a threshold to trigger the predetermined bio-function to function properly, the combined teachings of Levine et al. in view of Collins fail to teach or suggest that the electrical enhancement signal is generated when the control circuit determines from the sensed conditions that a natural signal of the predetermined bio-function has fallen below a threshold to trigger the predetermined bio-function to function properly, as set forth by independent claim 32.

Independent Claim 41

As respectfully submitted above, independent claim 41 sets forth a method for assisting a bio-function to perform normally. The method senses conditions of a predetermined bio-function; determines a state of the predetermined bio-function from the sensed conditions; generates a pre-malfunction state electrical signal so as to bring a pre-state of malfunction condition back into a normal bio-function condition when it is determined, from the sensed conditions, a pre-state of malfunction exists, and generates an electrical enhancement signal when it is determined, from the sensed conditions, that a natural signal of the predetermined bio-function has fallen below a threshold to trigger the predetermined bio-function to function properly, the electrical enhancement signal effectively lowering a threshold for enabling proper functioning of the predetermined bio-function.

More particularly, independent claim 41 states that the electrical enhancement signal is generated when it is determined, from the sensed conditions, that a natural signal of the predetermined bio-function has fallen below a threshold to trigger the predetermined bio-function to function properly.

In formulating the rejection, the Examiner alleges that Collins teaches the claimed environment enhancement generator. Although Collins teaches a device to effectively lower a threshold for enabling proper functioning of the predetermined bio-function, Collins fails to teach the specifics of the claimed environment enhancement generator.

More specifically, Collins teaches, at column 6, lines 1-14, that a bias signal, which is used to lower a threshold for the sensory cells, is generated when an input signal to the neuron is sensed or the bias signal is continuously produced.

Collins fails to teach that the electrical enhancement signal is generated when it is determined, from the sensed conditions, that a natural signal of the predetermined bio-function has fallen below a threshold to trigger the predetermined bio-function to function properly.

Moreover, Collins fails to teach any sensing of the conditions of a predetermined bio-function so as to trigger the generation of an electrical enhancement signal to effectively lower a threshold for enabling proper functioning of the predetermined bio-function. The only sensing of conditions of a predetermined bio-function that Collins teaches is during calibration. Once the bias signal is established through the calibration process, Collins teaches that is generated when an input signal to the neuron is sensed or is continuously produced.

In summary, since Collins fails to teach that the electrical enhancement signal is generated when it is determined, from the sensed conditions, that a natural signal of the predetermined bio-function has fallen below a threshold to trigger the predetermined bio-function to function properly, the combined teachings of Levine et al. in view of Collins fail to teach or suggest that the electrical enhancement signal is generated when it is determined, from the sensed conditions, that a natural signal of the predetermined bio-function has fallen below a threshold to trigger the predetermined bio-function to function properly, as set forth by independent claim 41.

Dependent Claims

With respect to dependent claims 33-38 and 42-48, the Applicant, for the sake of brevity, will not address the reasons supporting patentability for these individual dependent claims, as these claims depend directly or indirectly from allowable independent claims 32 and 41. The Applicant reserves the right to address the patentability of these dependent claims at a later time, should it be necessary.

Accordingly, in view of the amendments and remarks set forth above, the Examiner is respectfully requested to reconsider and withdraw the rejection under 35 U.S.C. §103.

Rejection under 35 U.S.C. §103

Claims 39 and 40 have been rejected under 35 U.S.C. §103 as being unpatentable over Levine et al. (US Patent 6,058,328) in view of Collins (US Patent 5,782,873) and Klemic et al. (Published US Patent Application 2004/0168912). This rejection under 35 U.S.C. §103 over Levine et al. in view of Collins and Klemic et al. is respectfully traversed.

With respect to dependent claims 39 and 40, the Applicant, for the sake of brevity, will not address the reasons supporting patentability for these individual dependent claims, as these claims depend directly or indirectly from allowable independent claim 32. The Applicant reserves the right to address the patentability of these dependent claims at a later time, should it be necessary.

Accordingly, in view of the amendments and remarks set forth above, the Examiner is respectfully requested to reconsider and withdraw the rejection under 35 U.S.C. §103.

CONCLUSION

Accordingly, in view of all the reasons set forth above, the Examiner is respectfully requested to reconsider and withdraw the present rejection. Also, an early indication of allowability is earnestly solicited.

Respectfully submitted,



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